

**Before the  
Federal Communications Commission  
Washington, D.C. 20554**

In the Matter of	)	
	)	
Numbering Policies for Modern Communications	)	WC Docket No. 13-97
	)	
IP-Enabled Services	)	WC Docket No. 04-36
	)	
Telephone Number Requirements for IP-Enabled Services Providers	)	WC Docket No. 07-243
	)	
Telephone Number Portability	)	CC Docket No. 95-116
	)	
Developing a Unified Inter-carrier Compensation Regime	)	CC Docket No. 01-92
	)	
Connect America Fund	)	WC Docket No. 10-90
	)	
Numbering Resource Optimization	)	CC Docket No. 99-200
	)	
Petition of Vonage Holdings Corp. for Limited Waiver of Section 52.15(g)(2)(i) of the Commission's Rules Regarding Access to Numbering Resources	)	
	)	
Petition of TeleCommunication Systems, Inc. and HBF Group, Inc. for Waiver of Part 52 of the Commission's Rules	)	

**COMMENTS OF INTELEPEER, INC.**

IntelPeer, Inc. ("IntelPeer") submits its Comments in response to the *VoIP Numbering NPRM* issued by the Federal Communications Commission ("Commission"), in which the Commission considers the implications of allowing providers of voice over Internet protocol ("VoIP") services to obtain direct access to

telephone numbers for exchanging voice communications traffic directly with carriers and other providers.<sup>1</sup>

## **I. Introduction and Summary**

IntelPeer, Inc. is a leading provider of Internet protocol (“IP”) communications services to service providers, as well as end user business customers. IntelPeer is transforming communications by delivering multimodal offerings, including voice and video, across devices, networks and geographies. IntelPeer delivers more than 23 billion minutes annually over the sophisticated and intelligent routing software in our extensive Media Peering Grid™. Through our Media Peering Grid™, IntelPeer exchanges traffic with more than 130 other service providers, and between more than 450 million telephone numbers and end point identifying addresses in our SuperRegistry® global directory. Our solutions allow our wholesale and business customers to transition from legacy telecommunications networks to next-generation, all IP-based communications in a rapid and cost-effective manner.

IntelPeer applauds the Commission for undertaking this effort to authorize VoIP providers to obtain telephone numbers directly, without being forced to use a local exchange carrier to exchange traffic with any other voice provider. The questions posed confirm that the Commission understands the need to adopt rules that accommodate for the evolution from TDM to IP. IntelPeer offers these Comments primarily to suggest that the Commission seize this opportunity to restructure this effort

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<sup>1</sup> *In the Matter of Numbering Policies for Modern Communications*, WC Docket No. 13-97, *IP-Enabled Services*, WC Docket No. 04-36, *Telephone Number Requirements for IP-Enabled Services Providers*, WC Docket No. 07-243, *Telephone Number Portability*, CC Docket No. 95-116, *Developing a Unified Intercarrier Compensation Regime*, CC Docket No. 01-92, *Connect America Fund*, WC Docket No. 10-90, *Numbering Resource Optimization*, CC Docket No. 99-200, Notice of Proposed Rulemaking, Order and Notice of Inquiry, FCC 13-51 (rel. April 19, 2013)(“*VoIP Numbering NPRM*”).

slightly to yield greater certainty about the TDM-to-IP transition amongst consumers and the industry.

Generally, IntelPeer encourages the Commission to utilize the framework set forth in the Comments IntelPeer filed on the IP Technology Trials, which proposed a series of coordinated phases of a comprehensive IP technology trial.<sup>2</sup> In particular, the final rules should compel providers to take advantage of having direct access to telephone numbers by facilitating a physical network to exchange IP traffic efficiently amongst all voice providers, updating pieces of the numbering administration while leaving room for additional evolution as the TDM-to-IP transition transpires, employing simple requirements to qualify for such access; and setting a timeline to realize the complete adoption on this piece of the TDM-to-IP transition.

## **II. Facilitating a Physical Network that Supports the Routing of VoIP Traffic Amongst Carriers and Providers is Essential for the TDM-to-IP Transition.**

The TDM-to-IP transition relies on the realization of a physical network that fully supports routing of VoIP traffic between all carriers and VoIP providers, unconstrained by the jurisdictional and regulatory barriers adopted over the last century for the public switched telephone network (“PSTN”). Therefore, IntelPeer emphasizes the need to encourage industry-wide movement towards IP connections, while eliminating any unwarranted geographic constraints on VoIP provider’s usage of telephone numbers.

First and foremost, IntelPeer urges the Commission to ensure that any rules adopted in this Rulemaking promote further commercial IP interconnection between all carriers and providers, including local exchange carriers. IntelPeer not only supports a

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<sup>2</sup> IntelPeer Comments, *Technology Transitions Policy Task Force Seeks Comment on Potential Trials*, GN Docket No. 13-5 (July 8, 2013).

condition that all VoIP providers obtaining telephone numbers be required to offer IP interconnection to exchange voice traffic with other carriers and providers, but also favors rules that incent all carriers to convert their networks to support IP connection for the exchange of end-to-end IP voice communications. As more IP connections become available, the additional features and functionalities offered with end-to-end IP voice communications will promote increased consumer adoption of such services, thus generating even more IP traffic for exchange amongst carriers and providers.

However, adopting a rule requiring a carrier partner could ultimately have the opposite effect. Today, VoIP providers have no choice but to partner with a carrier that is the default in the Local Exchange Routing Guide ("LERG"), in order to exchange traffic with carriers on the PSTN.<sup>3</sup> If the VoIP Numbering Trials uncover some particular issues requiring carrier partners beyond the network limitations, then the Commission and the industry should seek solutions for that issue in a subsequent trial phase. Yet, adopting an interim solution as a permanent requirement presumes that such arrangements will be necessary indefinitely, which consequently discourages the industry from continuing to pursue and develop better alternatives. If anything, the rules adopted by the Commission could sunset the need to have a carrier partner to advance the TDM-to-IP transition. Without such an express obligation, some carriers may not even consider IP connections for the better part of another decade.

Finally, imposing the geographical constraints of the legacy PSTN on all IP voice communications will serve only to hinder the TDM-to-IP transition. There are infinite commercial and personal reasons for wanting to have a telephone number from a

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<sup>3</sup> *VoIP Numbering NPRM* at ¶¶ 16, 41-44.

different area than a billing address or an office location. The rationale for geographic limitations on assigning telephone numbers were borne and exist only in a pure PSTN environment. One of the many advantages to IP voice communications is that consumers are no longer bound by geographic restraints for telephone numbers, and should not be saddled artificially and indefinitely to such. Instead, the rules adopted by the Commission not only should remove such artificial constraints, but also should bolster traditional carriers' adoption of IP connections for exchanging VoIP communications.

### **III. Identifying the Appropriate Modifications for Numbering Administration Depends on the Outcome of the Ongoing Trials.**

The Commission acknowledges the possibility of these changes necessitating modifications in the various administration services and processes for the numbering databases.<sup>4</sup> These databases include the Business Integrated Routing & Rating Database System ("BIRRDs"), LERG, Number Portability Administration Center ("NPAC"), and Line Information Database ("LIDB"), Calling Name (CNAM"). The only certainty at this point is that numbering administration will need to evolve as the industry evolves towards an all-IP environment, though IntelPeer has a couple of suggestions on steps the Commission can take currently to assist that transition.

In an open all-IP environment, the singular database structure of the PSTN will likely be replaced by a network of domain name registries and databases, similar to those utilized today with the public Internet. However, until the industry learns more from the VoIP Numbering Trials, as well as the ultimate adoption of VoIP Numbering rules, IntelPeer cautions the Commission to not influence inadvertently the direction of

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<sup>4</sup> *Id.* at ¶¶ 45, 129.

such changes. If the Commission does determine a need to extend the numbering utilization and optimization requirements to VoIP providers, the Commission should make clear that such requirements do not apply to any future systems or databases adopted by VoIP providers for use with IP voice communications, unless the Commission expressly finds sufficient justification to extend such requirements in the future. This limitation will allow the numbering databases and associated administration to evolve in the most efficient manner for the industry and consumers.

In the meantime, IntelPeer suggests two modest changes to how numbering administration works today, which should take effect with any rule changes adopted by the Commission. First, a partition for VoIP numbers should be created in NPAC, LERG and BIRRDs for a non-geographic VoIP numbering plan, similar to the partition established for wireless numbers which are not subject to geographic limitations. If the Commission finds an entirely separate non-geographic VoIP numbering plan to not be feasible currently, IntelPeer requests that the Commission consider a geographic VOIP numbering plan portable between the TDM and IP networks during a pre-set transition period. Second, instead of forcing VoIP providers to establish and utilize carrier identification codes (“CICs”) necessary for PSTN routing, the database providers should expand their fields to allow VoIP providers to use their IP addresses used to transmit the IP voice traffic. With these changes, the Commission will ensure that the supporting database systems are positioned appropriately for VoIP providers to access and employ the telephone numbers for their VoIP calls.

#### **IV. Balancing Market Considerations will Accelerate the Ultimate Transition to an All-IP Environment for Voice Communications in America.**

Beyond issues related to physical networks and numbering administrations, the Commission asks what VoIP providers must do in order to gain access to telephone numbers, and how to avoid making this requirement overly burdensome on new entrants to the market.<sup>5</sup> Eligibility requirements can validate whether a VoIP provider is prepared to have telephone numbers, without unduly or administratively burdening the VoIP providers. For this reason, IntelPeer offers a simple approach for the Commission and states to determine eligibility.

IntelPeer suggests that VoIP providers wanting access to telephone numbers should make an initial application with the Commission, which the Commission can accept, or hold until satisfied with the “readiness” of a VoIP provider. The Commission could base its determination of a VoIP provider’s “readiness” on a demonstration by the VoIP provider that sufficient commercial arrangements are in place for exchanging voice traffic with the rest of the industry. Upon completion of its federal registration, VoIP providers could register then in any state(s) from which telephone numbers are needed (similar to current interconnected VoIP registration requirements), as long as the state commissions retain their authority over number administration.

#### **V. Completing this Phase of the TDM-to-IP Transition in a Reasonable Timeframe will Benefit Consumers, as well as the Industry.**

Timing of these rules, which would allow VoIP providers direct access to telephone numbers, becomes increasingly important for the facilitation of the TDM-to-IP transition. The Commission solicited input about what timing would be appropriate for

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<sup>5</sup> *Id.* at ¶¶ 36-39.

the changes proposed.<sup>6</sup> IntelPeer considers eighteen (18) months a reasonable timeframe for concluding this phase of the TDM-to-IP transition. Of course, any timeframes set in this Rulemaking must take into consideration the ongoing VoIP Numbering Trials. IntelPeer proposes crucial expansions of the VoIP Numbering Trial so that the Commission may take full advantage of this opportunity to collect ample documentation on the hurdles, feasible solutions and any remaining areas possibly requiring regulatory intervention from this Rulemaking.

IntelPeer asks the Commission to issue an interim decision extending the current six (6) month trial for interconnected VoIP providers to obtain telephone numbers for an additional six (6) month period. Based on our experience to date, IntelPeer expects having reports for only a couple of months under the current trial schedule, and only for arrangements through a tandem provider. Others appear to be having similar experiences with the *FCC VoIP Numbering Trials*.<sup>7</sup> To be able to provide any useful data, including information on exchanging traffic via LEC IP connections, IntelPeer anticipates needing several additional months.

With this additional time, IntelPeer also suggests expanding the VoIP Numbering Trials to allow trial participants who offer other types of VoIP service to also test access to telephone numbers for those services, as well as report those findings for the remainder of the trial. The Commission inquired about whether the rules allowing access to telephone numbers to interconnection should apply (or differ) for the varying

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<sup>6</sup> *Id.* at ¶ 65.

<sup>7</sup> See Millicorp Ex Parte, *In the Matter of Numbering Policies for Modern Communications*, WC Docket No. 13-97, *IP-Enabled Services*, WC Docket No. 04-36, *Telephone Number Requirements for IP-Enabled Services Providers*, WC Docket No. 07-243, *Telephone Number Portability*, CC Docket No. 95-116, *Developing a Unified Intercarrier Compensation Regime*, CC Docket No. 01-92, *Connect America Fund*, WC Docket No. 10-90, *Numbering Resource Optimization*, CC Docket No. 99-200 (July 15, 2013).



types of VoIP, such as interconnected, one-way, nomadic, fixed, facilities-based, over-the-top.<sup>8</sup> Extending the trials to include other types of services offered by the trial participants will bolster the record in this proceeding to allow the Commission to determine whether sufficient justification exists to subject different types of VoIP to disparate requirements for obtaining telephone numbers.

After the conclusion of the comprehensive VoIP Numbering Trial, six (6) months seems to be a sufficient period for the Commission to issue its decision on the Rulemaking, and for the industry to adopt the resulting rules. IntelePeer requests that the Commission decision specifically outline any issues possibly barring complete adoption of the changes discovered in the trials and set forth reporting requirements on where and how these outlying issues to help drive resolution on such matters in a timely manner. Depending on the types of outlying issues revealed, setting an implementation schedule requiring the impacted parties to resolve those issues may also be appropriate to achieve complete adoption of the changes.

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<sup>8</sup> See *Id.* at ¶ 26, 71.

## VI. CONCLUSION

IntelPeer commends the Commission for undertaking this effort to authorize VoIP providers to obtain telephone numbers directly, in order to be able to exchange traffic with any other IP voice provider, and eventually all voice providers. IntelPeer urges the Commission to adopt rules that foster the TDM-to-IP transition by (i) facilitating a physical network to exchange IP traffic efficiently amongst all voice providers; (ii) updating elements of numbering administration without constraining any intrinsic developments, (iii) employing clear eligibility requirements to qualify for such access at the state and federal level; and (iv) setting an eighteen month timeline to promptly realize complete adoption on this piece of the TDM-to-IP transition.

Respectfully submitted,

A handwritten signature in black ink, appearing to read "Kristin L. Manwarren".

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